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ABSTRACT

The extended day kindergarten (EDK) program in Detroit's 87 Chapter 1 schools in the 1984-85 school year was designed to serve children "least ready" for kindergarten, by providing a full day program 4 days per week. The fifth day of each week was reserved for inservicing teachers, school service assistants, and parents. Parents were instructed in parenting skills and the preparation and application of educational materials for home use. Evaluation of the EDK program compared a random sample of EDK pupils and a control group of children in a traditional Chapter 1 kindergarten program. The two groups were examined for differences in readiness for reading and mathematics as measured by the California Achievement Tests, Level 10, Form C. Survey questionnaires, distributed to principals, teachers, school service assistants, and parents of participating pupils, were analyzed to ascertain respondents' reactions to the programs. Results indicated a significant difference in reading readiness in favor of the experimental group. Though mathematics means were higher for the experimental group, no significant difference between groups was found. Evidence suggests that the EDK program for the 1984-85 school year was effective. Participants' attitudes were generally very favorable. (RH)

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Evaluation of the

EXTENDED DAY KINDERGARTEN PROGRAM

1984-1985

Funded under Chapter 1
Education Consolidation and Improvement Act

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PROGRAM FACTS

Title : Extended Day Kindergarten (EDK)

Funding Year : 1984-85

Purpose of Project : To improve the cognitive, psychomotor, affective, and linguistic skills of students "least ready" for kindergarten.

Program Features : The extended day was expected to provide additional opportunities to assist kindergarten pupils attain essential learning skills. Program participants were those Chapter 1 students designated as "least ready" for kindergarten. In contrast to the standard kindergarten schedule of five one-half days of instruction per week, the EDK schedule provided students with four complete school days of instruction and provided teachers, parents and school service assistants with one full day of inservice per week.

Funding Source : Chapter 1, Education Consolidation and Improvement

Funding Level : \$3,311,289

Number of Students Served : Approximately 2,300

Staffing Pattern : 2 Supervisors
5 Area Coordinators
87 Kindergarten Teachers
87 School Service Assistants

Instructional Time : EDK schedule provided for four complete school days of instruction, and provided teachers, parents, and school service assistants with one full day of inservice per week.

Materials and Equipment : Reading and mathematics materials and equipment selected by individual teachers under the guidance of EDK supervisors and coordinators.

First Year of Funding : 1979-80

EXTENDED DAY KINDERGARTEN PROGRAM

EXECUTIVE SUMMARY

Purpose and Features of the Program

The Extended Day Kindergarten (EDK) program was operative in 87 Chapter 1 schools (86 elementary schools and one kindergarten placed in a middle school) and was designed to serve those children "least ready" for kindergarten. EDK participants were provided additional opportunity to attain readiness skills by attending kindergarten for a full regular school day, four days a week. The fifth day was reserved for inservicing teachers and school service assistants as well as parents. The latter group was instructed in parenting skills and the preparation and application of educational materials for home use.

Evaluation Methodology

A sample of EDK pupils was randomly selected from the population of 2300 participants. A control group of Chapter 1 traditional kindergarten program pupils was randomly selected for comparison purposes. The two groups were then examined for differences in readiness for reading and mathematics as measured by the California Achievement Tests, Level 10, Form C, administered in April, 1985.

In addition, survey questionnaires were distributed to principals, teachers, school service assistants, and parents of participating pupils. The survey forms were returned to the evaluator and then content analyzed for the respondents' reactions to the programs.

Findings and Recommendations

Results of a t-test applied to the means of the experimental group and comparison groups raw scores for total pre-reading indicated a significant difference in reading readiness in favor of the experimental group. Though mathematics means were higher for the experimental group, there was no significant difference. Based on this evidence, it appears that the EDK program for the 1984-85 school year especially as concerns the reading program was effective.

Summary data from the EDK surveys completed by principals, teachers, school service assistants and parents revealed that three of the four groups provided a 100% favorable rating concerning the overall program's success. The fourth group, parents rating, was only slightly less favorable with 97% indicating positive responses.

Therefore, based on the test and survey data in this report, it is recommended wherever possible the EDK program should be expanded. Pupils as well as parents appear to benefit from this program.

Evaluation of the
Extended Day Kindergarten Program
1984-85

Background

Increased recognition of the diverse abilities of kindergarten students had created a demand for programs of sufficient scope to meet the cognitive, social, and physical skill requirements of all kindergarten pupils. The need for such program is deemed greatest for students who are "least ready" for kindergarten. To assist these children in attaining the necessary readiness skills, Extended Day Kindergarten (EDK) programs have been implemented. EDK programs in comparison with traditional half-day kindergarten programs provide for more instructional time and for individualization of instruction. The extended kindergarten day also provides greater opportunity to identify and remediate learning deficiencies.

The Detroit Public Schools (DPS) instituted its first EDK program during the 1979-1980 school year in four Title I (Chapter 1 as of July 1, 1982), Region 5 schools with the expectation of improving the cognitive, psychomotor, and linguistic skills of the pupils. The following year the program was expanded to include four additional Title I schools in Region 5. For the 1983-84 school year, EDK Programs were operational in 25 Chapter 1 elementary schools; 15 schools in Area A and 10 schools in Area D.

During the 1984-85 school year the EDK Program expanded to include 87 Chapter 1 schools (86 elementary and one kindergarten placed in a middle school) involving each of the administrative areas. This 71% increase in schools with EDK Programs was in accord with the national trend of more than a third of all kindergartens having full-day programs.¹

The basic structure of the EDK Program provided for each class to meet four days a week for the full regular school day, thus allowing approximately 60% additional class time as compared to half-day kindergarten class. One day was reserved for inservice meetings which may include parents, teachers, and school service assistants (also designated as para-professionals or aides). Each EDK classroom was staffed by a certified teacher and one full time school service assistant.

EDK program administration was under the guidance of two citywide supervisors and five area coordinators. Supervisors were responsible for the general direction of the program and along with area coordinators assisted teachers with planning and implementation of the EDK program and organization of inservice seminars for parents, teachers, and school service assistants.

Seminar and workshop topics were varied and included subjects relating to:

1. children's literature,
2. home learning centers,
3. discipline,
4. nutrition,
5. children's self-concepts,
6. sickle-cell anemia,
7. fire safety,
8. EDK curriculum,
9. support services, and
10. make and take materials.

Consultants for seminars and workshops included representatives from local schools, area and central office administrators, librarians, social workers, psychologists, and other individuals who had expertise in specific subjects.

Students selection for the 1984-85 EDK program involved a basic Chapter 1 tenet which is to assist students having a low predictive level for school success raise their achievement. EDK participants could be considered those students "least ready" for a regular kindergarten experience. The following three criteria were applied in attaining the EDK target population:²

1. Students who were screened and enrolled in 1983-84 Chapter 1 preschool or DPS Project Head Start classes and who are still in need of follow-up assistance are to be given preference for the Extended Day Kindergarten Program.
2. If space is still available after the registration of the preferred preschool/Head Start graduates, students scoring the lowest on the Kindergarten Inventory of Developmental Skills (KIDS) administered in the fall of 1984 are to be enrolled.
3. In schools which did not have a Chapter 1 or Head Start program, students are to be screened the first week of the 1984-85 school year using the Kindergarten Inventory of Development Skills (KIDS). Students with the lowest scores are to be given preference for enrollment.

It should be noted that the KIDS instrument was developed by DPS teachers and administrators during the summer and fall of 1983, and was administered to all kindergarten students in the fall of 1984. KIDS furnishes information for the appraisal of pupil skills in color recognition, numeration, spatial relationships, vocabulary, auditory memory, and visual discrimination.³

Materials used to implement the EDK program were selected by individual EDK teachers under the guidance of EDK supervisors and coordinators. Reading and mathematics materials were varied. A majority of schools used reading

materials published by Ginn, MacMillan, and Houghton-Mifflin. Mathematics materials were provided primarily by two publishers, Holt and Harper-Row. In addition, some EDK classes were involved in the Comprehensive School Mathematics Program (CSMP) using materials from the Central Eastern Midwestern Regional Educational Laboratory (CEMREL).

The curriculum for EDK as presented by the DPS Department of Early Childhood Education focused on the following goals:⁴

1. language development,
2. interdisciplinary instruction,
3. student self-concept,
4. needs of varied cultures and environments,
5. individual academic skill development,
6. manipulative and concrete materials for conceptual/perceptual development, and
7. monitoring student achievement to promote continuous progress.

The general daily lesson plans included activities in:⁵

1. pre-reading,
2. pre-math,
3. writing,
4. songs and rhythm
5. literature and poetry, and
6. use of learning centers

An additional feature of the program had EDK participants remaining for lunch in order to provide them with a nutritious meal.

Parent involvement was an important component of the EDK program and is in agreement with current research which shows that the involvement of parents is important to children's achievement.⁶ Specific time was allocated for parent activities. With the aim of furthering parent participation, many schools asked parents to sign a "Statement of Intent Contract" in which one of the provisions was attendance at monthly meetings. In addition, supervisors and coordinators distributed information regarding methods for encouraging parental involvement. Table 1 presents the percent of attendance for parents at monthly meetings from a sampling of EDK schools. Data indicated a range of 33%-79% with 5 of the 10 months having over 50% attendance.

Some points of discussion at parent meetings were

1. general plans and goals of the EDK program,
2. homework,
3. nutrition,
4. library services,
5. curriculum skills,
6. social worker assistance,
7. communication disorders, and
8. make and take materials.

Table 1

PERCENT OF ATTENDANCE BY PARENTS AT MONTHLY MEETINGS
AS REPORTED BY EDK 10 SAMPLE SCHOOLS

Month	Percent of Attendance	Month	Percent of Attendance
September	79	February	46
October	60	March	53
November	51	April	33
December	42	May	35
January	41	June	74

Evaluation Plan and Presentation of Data

A primary purpose of this evaluation was to investigate the effect of a Chapter 1 Extended Day Kindergarten program on the achievement of pupils. This study, therefore, compared the reading and mathematics performances of a sample of participants in EDK with those of a sample of Chapter 1 pupils who had not had EDK. Both groups were kindergarten pupils during the school year 1984-85. Those pupils who participated in EDK made up the experimental group, and the nonparticipants constituted the control group.

The total experimental group population was composed of about 2,300 kindergarten pupils in 87 Chapter 1 schools in Areas A-F. The control group was made up of students who attended a traditional kindergarten program in Areas A-F and who had received regular Chapter 1 services during the school year. It should be stressed that both groups were Chapter 1 target pupils. The experimentals received their compensatory education service in the form of an extended day, whereas the controls received their service within the framework of the traditional one-half day of schooling.

A simple random sample of 40 experimentals and 40 controls was selected for statistical analysis of their test scores. The reading and mathematics achievement of the EDK pupils were measured by the California Achievement Tests, Level 10, Form C, administered April, 1985. Data for the two groups were subjected to t-tests. The comparison of reading achievement scores is displayed in Table 2, and the comparison of mathematics scores is shown in Table 3.

Table 2

Comparison of Means of Raw Scores in Pre-Reading,
California Achievement Tests, Level 10, Form C
April, 1985

Group	N	Mean	SD	t-value
Experimental	40	94.4	20.3	
Control	40	84.9	17.9	2.22*

*Significant at $p < .05$

Table 3

Comparison of Means of Raw Scores in Mathematics,
California Achievement Tests, Level 10, Form C
April, 1985

Group	N	Mean	SD	t-value
Experimental	40	16.5	4.7	
Control	40	15.1	5.2	1.22*

*Not Significant

The t-value for the test for a significant difference in means of raw scores for pre-reading indicates a difference in favor of the EDK participants. It can be concluded that the EDK pupils did not perform significantly better in mathematics as measured by the California Achievement Tests even though the mathematics mean was higher for the experimental group.

Table 4 presents a comparison of CAT 10 reading and mathematics mean raw scores on the subtests for the sample of EDK and non-EDK participants.

Table 4

Comparison of CAT 10 Reading and Mathematics
Mean Raw Scores for EDK and Non-EDK Sample Students

Reading Tests	Maximum Raw Score Per Test	EDK Sample Students Mean Raw Score*	Non-EDK Sample Mean Students Raw Score*
Listening for Information	16	13	11
Letter Forms	18	15	15
Letter Names	19	18	17
Letter Sounds	21	16	12
Visual Discrimination	18	12	11
Sound Matching	28	21	20
Total Prereading Raw Score	120	95	86
Mathematics Test	26	17	15

*Raw scores were rounded.

Data for five of the six reading subtests and the one mathematics test reveal that the experimental group attained higher mean raw scores than the control group. On one reading subtest, Letter Forms, the scores were identical. Results revealed in Tables 2, 3, and 4 display the higher mean scores in both reading and mathematics for EDK participants with the experimental group showing a significant difference in reading.

In addition to the analysis of test scores, an attempt was made to assess the EDK program from the perspective of school personnel as well as parents of participating pupils. It was hoped that responses from these groups would be helpful to decision makers in finding ways to improve the program.

The following individuals, representing a sample of EDK schools, received survey questionnaires:

- 10 principals,
- 10 EDK teachers,
- 10 EDK school service assistants, and
- 10 parents or guardians of EDK pupils.

The number and percent of surveys which were returned are displayed in Table 5.

Table 5
Number and Percent of Surveys
Which Were Returned
From Sample Schools

Type of Survey	Number Distributed	Number Returned	Percent Returned
Principal	10	10	100
EDK Teacher	10	9	90
EDK SSA	10	9	90
Parent	250	133	53

EDK was an overwhelming success based on analyses of responses from each of the four groups that received survey questionnaires. Three of the four groups indicated a 100% favorable rating concerning the item measuring the overall program's success. Parent ratings were only slightly less with 97% revealing positive responses. For a majority of other items on all questionnaires the range of favorable responses was 84%-100%, a further indication of the respondents' perceptions of the success of the total program.

In the areas of student skill development, all respondents rated these categories very highly with favorable evaluations of 89%-100%. Similiar high rates of agreements were characteristic of other survey categories. Principals and teachers had favorable degrees of positive responses for items relating to area coordinators in their assistance to teachers and school service assistants. It should also be noted that data indicated 100% positive agreement among principals regarding the success of EDK coordinators in providing them with program information and understandings. Other teachers and school service assistants also responded very positively to two other items; the sharing and planning of experiences and activities, and the need to meet in the Fall with area coordinators before school begins.

Data analysis, though, does present a dichotomy between teachers and school service assistants regarding the latter's training and guidelines. School service assistants evaluated these two areas with 100% positive responses. In contrast only 44% of the teachers were of the opinion that school service assistant training was adequate, and only 67% of the teachers selected positive ratings regarding guidelines which were supposed to provide important information for school service assistants.

Results relating to parent involvement reveal a range of responses. Parents indicated positive ratings of 84% to 87% for items related to parent involvement. By the same token the lowest positive agreement of the principal's survey was 80% and that concerned the effectiveness of the parent involvement

program. In contrast only 55% of the teachers presented favorable ratings for the parent involvement program. Nevertheless, teachers were in total positive agreement concerning the adequacy of time allocated for parent activities and 78% showed favorable responses regarding their success in helping parents understand the EDK program.

The teacher group was the only one requested to respond to specific open-ended questions. Included were three items; what did they (teachers) do different for children's learning experiences; what suggestions do they (teachers) have for improving parent involvement, and what suggestions do they have for EDK program changes. Generally the comments for each item were that:

1. Children's learning experiences were different because the extended day and scheduling allowed additional time for skill development and students were able to work in smaller groups using a greater variety of concrete materials.
2. Parent involvement could be improved if parents realized the importance of helping their child at home and, "establish a positive supportive relationship at the beginning of the school year to encourage parents to take a vital part in the program." (Almost 85% of the parents indicated that as a result of the monthly meetings they have a better understanding of how to make their home a learning center for their child.)
3. Proposed program changes included area sponsored workshops and two suggestions regarding school service assistants which were in agreement with teacher responses for related survey items. Teachers indicated the need for additional training for this group and that school service assistants should also meet with coordinators prior to the opening of school. (Less than a majority of the teachers responded favorably to the item that school service training was adequate. There was total agreement by teacher respondents to the item relating to the importance of school service assistants having an orientation meeting with area coordinators prior to the opening of school.)

All respondents were provided the opportunity for making comments concerning the EDK program. Following are samples of statements representative of the four groups surveyed and characteristic of the majority of comments offered by the respondents.

Principals:

"I am extremely pleased with the program. It should be expanded."

"The quality of sharing, cooperation and involvement of participants in the EDK program should produce future benefits for the children."

Teachers:

"Very enjoyable and successful program, but more parent involvement is needed."

"This has practically been my most interesting year of teaching kindergarten. The increase in time spent with the children fosters a much better rapport—this is a very valuable program."

School Service Assistants:

"Working in the EDK program has been a learning experience for me as well as the children. I enjoyed the program."

"The EDK program is a very effective and helpful program. It will and has helped the children very much."

Parents/Guardians:

"As a parent I was very impressed with the EDK program. It is imperative that this program is continued. I truly enjoyed watching my child learn and grow through the EDK program."

"I believe the EDK program was a training ground for my child. It exposed him to activities that will take place in the first grade; such as a whole day of school, doing homework, going to lunch and so on. I think EDK should continue. It can be helpful to those who are really in need."

"As a result of EDK my child has developed independence, confidence, and an interest in learning."

"I enjoyed seeing his eyes light up when he talks about his teachers and what he has learned that day in school."

Recommendations

Based on information presented in this report, observations, and discussions with the EDK staff, the following recommendations are proposed:

1. Survey and test data indicate that the EDK program should include all Chapter 1 kindergarten classes, and if possible provide for additional classes per school. A significant difference in reading test results in favor of the experimental group along with a higher mathematics mean and almost 100% favorable responses from all respondents regarding the success of the EDK program, provide a realistic basis for the program's expansion. In light of the fact that the Detroit Public Schools do not offer a developmental kindergarten program, including more Chapter 1 kindergarten participants under the aegis of EDK will provide the opportunity for more students to obtain additional educational services. (Developmental kindergarten programs, in a broad sense, have the same goals as EDK, but instead allow the children "an additional year to mature before entering the regular kindergarten program."⁷
2. Analyze parent involvement programs with the goal of improving 1984-85 attendance. Even though almost 80% of the teachers were in agreement as to the adequacy of time allocated for parent activities, only 55% gave positive responses regarding the parent involvement program.
3. Principals, teachers, school service assistants, EDK supervisors, and EDK area coordinators should be involved in the process of revising school service assistant training and guidelines. Less than 50% of the teachers agreed that school service assistant training was adequate, and less than 67% agreed that the guidelines provided important information. It may serve the EDK program well to include principals, EDK supervisors and coordinators, teachers as well as school service assistants in the process of revising the guidelines and training program.
4. Schedule a meeting prior to the opening of school for EDK teachers, EDK supervisors, and area coordinators, and school service assistants regarding the total EDK program. There was almost total agreement among teachers and school service assistants concerning a meeting of this type.
5. Standardized use of reading and mathematics materials may result in improved achievement especially in the area of mathematics. Results on the CAT 10 for mathematics did not indicate a significant difference even though means were higher for the experimental group.

6. Testing of Article 3 kindergarten participants with the CAT 10 would ensure comparison group for evaluation purposes. Establishing EDK in all Chapter 1 schools may encompass the total Chapter 1 kindergarten population, thereby precluding a reasonably acceptable comparison group composed of Chapter 1 participants in a traditional kindergarten program. As an alternative, Article 3 kindergarten participants could serve as a comparison group.

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1. Carol Seefeldt, "Tomorrow's Kindergarten: Pleasure or Pressure?", "Principal, May, 1985, p. 13.
 2. Detroit Public Schools, Department of Early Childhood Education, Extended Day Kindergarten, 1984-85, p. 3.
 3. Kindergarten Inventory of Development Skills, Administrative Manual, Division of Educational Services Department of Early Childhood Education, Language Education, and Evaluation and Testing, Detroit Public Schools.
 4. Detroit Public Schools, p. 1.
 5. Ibid; p. 2.
 6. Virginia R. L. Plenkett. "From Title 1 to Chapter 1: The Evaluation of Compensator, Education," Phi Delta Kappa, April, 1985, p. 536.
 7. Developmental kindergarten Provides Extra Time, "ERS Management Operations Information Exchange, Fall, 1985, p. 2.